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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,054	03/24/2004	Keith R. Hildebrand	P-20906.00US	4204
27581	7590	11/30/2005	EXAMINER	
MEDTRONIC, INC. 710 MEDTRONIC PARK MINNEAPOLIS, MN 55432-9924			STITZEL, DAVID PAUL	
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1616

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/808,054	HILDEBRAND ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David P. Stitzel, Esq.	1616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## OFFICIAL ACTION

### *Acknowledgment of Receipt*

Receipt of a Preliminary Amendment, which was filed on September 22, 2005, is acknowledged.

### *Status of Claims*

Claims 47-48 were added by the aforementioned preliminary amendment. As a result, claims 1-48 are currently pending and therefore examined herein on the merits for patentability.

### *Claim Rejections - 35 U.S.C. § 112, Second Paragraph*

The following is a quotation of the second paragraph of 35 U.S.C. § 112, which forms the basis of the claim rejection as set forth under this particular section of the Official Action:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-48 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. With respect to claims 1 and 36, confusion exists as to what disorders constitute “a gabapentin-sensitive disorder?” With respect to claim 36, the phrase “in an amount effective to a gabapentin-sensitive disorder in the patient, wherein ‘the injectable gabapentin composition comprises gabapentin, a pharmacologically acceptable solvent, and less than 0.9 % (w/v) sodium chloride” renders said claim indefinite because the meets and bounds of said claim is unclear, as confusion exists with respect to the intended scope of said claim. See MPEP § 2173.05(d). For example, confusion exists with respect to whether Applicant intended to claim an amount effective to treat a gabapentin-sensitive disorder? Claims 2-35 and 37-48 are rejected under 35 U.S.C. § 112, second paragraph, as being dependent upon rejected claims 1 and 36 for the reasons set forth hereinabove.

***Provisional Nonstatutory Double Patenting***

A nonstatutory double patenting rejection of the “obviousness-type” is based on a judicially created doctrine grounded in public policy so as to prevent not only the unjustified or improper timewise extension of the “right to exclude” granted by a patent, but also possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re White*, 405 F.2d 904, 160 USPQ 417 (CCPA 1969); *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968); and *In re Sarett*, 327 F.2d 1005, 140 USPQ 474 (CCPA 1964).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned or assigned with this application. See 37 CFR 1.130(b). Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. See MPEP § 804. However, this does not mean that one is absolutely precluded from all use of the patent disclosure. See MPEP § 804. For example, the specification can always be used as a dictionary to learn the meaning of a term in the patent claim. *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Furthermore, those portions of the specification which provide support for the

patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-442, 164 USPQ 619, 622 (CCPA 1970). The court in *Vogel* stated that one must first “determine how much of the patent disclosure pertains to the invention claimed in the patent” because only “[t]his portion of the specification supports the patent claims and may be considered.” The court in *Vogel* also pointed out that “this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. § 103, since only the disclosure of the invention claimed in the patent may be examined.”

1. Claims 1-48 of the instant application (10/808054) are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over conflicting claims 1-45 and 51 of copending U.S. Patent Application Serial Number 10/808129 (hereinafter the conflicting Hildebrand ‘129 application).

More specifically, claims 1-48 of the instant application are directed to a system comprising a pump, which is coupled to a reservoir and a catheter, for intrathecal administration of a heat sterilized injectable pharmaceutical composition into cerebrospinal fluid, wherein said heat sterilized injectable pharmaceutical composition comprises an aqueous saline solution of gabapentin in combination with an additional therapeutic agent selected from the following: sodium valproate, midazolam, baclofen, morphine and hydromorphone; wherein said morphine may be present at a concentration from about 10 mg/mL to about 50 mg/mL; wherein said hydromorphone may be present at a concentration from about 1 mg/mL to about 20 mg/mL; wherein said gabapentin is present in said aqueous saline solution at a concentration of greater than about 30 mg/mL; wherein said aqueous saline solution has a pH

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between about 4 and about 9; wherein said aqueous saline solution has a tonicity of about 250 mOsm, which is substantially isotonic with cerebrospinal fluid; wherein said aqueous saline solution is substantially free of preservatives and buffers.

Claims 1-45 and 51 of the conflicting Hildebrand '129 application are directed to a heat sterilized injectable pharmaceutical composition comprising an aqueous saline solution of gabapentin in combination with an additional therapeutic agent selected from the following: sodium valproate, midazolam, baclofen, morphine and hydromorphone; wherein said morphine may be present at a concentration from about 10 mg/mL to about 50 mg/mL; wherein said hydromorphone may be present at a concentration from about 1 mg/mL to about 20 mg/mL; wherein said gabapentin is present in said aqueous saline solution at a concentration of greater than about 30 mg/mL; wherein said aqueous saline solution has a pH between about 4 and about 9; wherein said aqueous saline solution has a tonicity of about 250 mOsm, which is substantially isotonic with cerebrospinal fluid; wherein said aqueous saline solution is substantially free of preservatives and buffers; wherein said heat sterilized injectable pharmaceutical composition is packaged within a kit that further comprises instructions.

Although the aforementioned claims of the conflicting Hildebrand '129 application do not explicitly recite the instantly claimed system comprising a pump, which is coupled to a reservoir and a catheter, for intrathecal administration of an injectable pharmaceutical composition into cerebrospinal fluid, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to utilize a system comprising a pump, which is coupled to a reservoir and a catheter, for intrathecal administration of an injectable pharmaceutical composition into cerebrospinal fluid, as the conflicting Hildebrand '129 application explicitly teaches utilizing a system comprising a pump for intrathecal administration of an injectable pharmaceutical composition into cerebrospinal

fluid ([0043]-[0048]). Therefore, one of ordinary skill in the art would have been motivated to utilize a system comprising a pump for intrathecal administration of an injectable pharmaceutical composition into cerebrospinal fluid.

In conclusion, although claims 1-48 of the instant application are not identical to claims 1-45 and 51 of the conflicting Hildebrand '054 application, the aforementioned claims are not patentably distinct each from the other because said claims are substantially overlapping in scope.

2. Claims 1-48 of the instant application (10/808054) are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over conflicting claims 1-28 and 58-59 of copending U.S. Patent Application Serial Number 10/807827 (hereinafter the conflicting Hildebrand '827 application).

More specifically, claims 1-48 of the instant application are directed to a system comprising a pump, which is coupled to a reservoir and a catheter, for intrathecal administration of an injectable pharmaceutical composition into cerebrospinal fluid, wherein said injectable pharmaceutical composition comprises an aqueous saline solution of gabapentin in combination with an additional therapeutic agent selected from the following: baclofen, sodium valproate and midazolam; wherein said gabapentin is present in said aqueous saline solution at a concentration of greater than about 30 mg/mL; wherein said aqueous saline solution has a pH between about 4 and about 9; wherein said aqueous saline solution has a tonicity that is substantially isotonic with cerebrospinal fluid; wherein said aqueous saline solution is substantially free of preservatives and buffers.

Claims 1-28 and 58-59 of the conflicting Hildebrand '827 application are directed to a system comprising a pump for intrathecal administration of an injectable pharmaceutical composition into

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cerebrospinal fluid, wherein said injectable pharmaceutical composition comprises an aqueous saline solution of gabapentin in combination with an additional therapeutic agent selected from the following: sodium valproate, midazolam and baclofen; wherein said gabapentin is present in said aqueous saline solution at a concentration of greater than about 30 mg/mL; wherein said baclofen is present in said aqueous saline solution at a concentration from about 50 µg/mL to about 3000 µg/mL; wherein said sodium valproate is present in said aqueous saline solution at a concentration from about 1 mg/mL to about 100 mg/mL; wherein said midazolam is present in said aqueous saline solution at a concentration from about 1 mg/mL to about 5 mg/mL; wherein said aqueous saline solution has a pH between about 4 and about 9; wherein said aqueous saline solution has a tonicity that is substantially isotonic with cerebrospinal fluid; wherein said aqueous saline solution is substantially free of preservatives and buffers.

Although the aforementioned claims of the conflicting Hildebrand '827 application do not explicitly recite the instantly claimed tonicity of about 250 mOsm, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to modify the tonicity of said aqueous saline solution to about 250 mOsm, as the conflicting Hildebrand '827 application teaches intrathecal administration of said injectable pharmaceutical composition comprising said aqueous saline solution into cerebrospinal fluid ([0047]-[0048]). Therefore, one of ordinary skill in the art would have been motivated to modify the tonicity of said aqueous saline solution to about 250 mOsm so as to achieve an injectable pharmaceutical composition comprising said aqueous saline solution that is isotonic with, and thereby suitable for intrathecal administration into, cerebrospinal fluid. In addition, although the aforementioned claims of the conflicting Hildebrand '827 application do not explicitly recite heat sterilization of said injectable pharmaceutical



composition, the conflicting Hildebrand '827 application teaches utilizing an autoclave or a filter as a means for sterilization ([0046]). The utilization of an autoclave, as opposed to a filter, does not render the injectable pharmaceutical composition of the conflicting Hildebrand '827 application patentably distinct from the heat sterilized injectable pharmaceutical composition of the instant application. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

In conclusion, although claims 1-48 of the instant application are not identical to claims 1-28 and 58-59 of the conflicting Hildebrand '827 application, the aforementioned claims are not patentably distinct each from the other because said claims are substantially overlapping in scope.

3. Claims 1-48 of the instant application 10/808054 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over conflicting claims 1-27 and 51 of copending U.S. Patent Application Serial Number 10/807828 (hereinafter the conflicting Hildebrand '828 application).

More specifically, claims 1-48 of the instant application are directed to a system comprising a pump for intrathecal administration of a heat sterilized injectable pharmaceutical composition into cerebrospinal fluid, wherein said heat sterilized injectable pharmaceutical composition comprises an aqueous saline solution of gabapentin in combination with an additional therapeutic agent selected from the following: sodium valproate, midazolam, baclofen, morphine and hydromorphone; wherein

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said morphine may be present at a concentration from about 10 mg/mL to about 50 mg/mL; wherein said hydromorphone may be present at a concentration from about 1 mg/mL to about 20 mg/mL; wherein said gabapentin is present in said aqueous saline solution at a concentration of greater than about 30 mg/mL; wherein said aqueous saline solution has a pH between about 4 and about 9; wherein said aqueous saline solution has a tonicity of about 250 mOsm, which is substantially isotonic with cerebrospinal fluid; wherein said aqueous saline solution is substantially free of preservatives and buffers.

Claims 1-27 and 51 of the conflicting Hildebrand '828 application are directed to a system comprising a pump for intrathecal administration of an injectable pharmaceutical composition into cerebrospinal fluid, wherein said injectable pharmaceutical composition comprises an aqueous saline solution of gabapentin in combination with an additional therapeutic agent selected from the following: an opioid agonist; baclofen; and a GABA agonist (i.e., valproic acid or sodium valproate); wherein said gabapentin is present in said aqueous saline solution at a concentration of greater than about 30 mg/mL; wherein said aqueous saline solution has a pH between about 4 and about 9; wherein said aqueous saline solution has a tonicity that is substantially isotonic with cerebrospinal fluid; wherein said aqueous saline solution is substantially free of preservatives and buffers.

In conclusion, although claims 1-27 and 51 of the instant application are not identical to claims 1-48 of the conflicting Hildebrand '054 application, the aforementioned claims are not patentably distinct each from the other because said claims are substantially overlapping in scope.

### ***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 103, which forms the basis of the obviousness rejections as set forth under this particular section of the Official Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pre-Grant Patent Application Publication Number 2001/0036943 (hereinafter the Coe '943 publication) in view of U.S. Patent 6,495,601 (hereinafter the Hochman '601 patent).

With respect to claims 1-48 of the instant application, the Coe '943 publication teaches a injectable pharmaceutical composition ([0004], [0283] and [0370]), which may comprise: an anticonvulsant analgesic, such as gabapentin and valproic acid ([0006], [0138] and [0270]); a non-opioid analgesic, such as baclofen ([0004], [0006] and [0270]); an opioid analgesic, such as morphine and hydromorphone (a.k.a., Dilaudid) ([0004], [0006], [0138] and [0270]); and a pharmaceutically acceptable carrier ([0004], [0006], [0368] and [0369]). Gabapentin may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 10.0 mg/kg/day to 35.0 mg/kg/day ([0315]). Valproic acid may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 1.0 mg/kg/day to 60.0 mg/kg/day ([0319]). Baclofen may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 0.1 mg/kg/day to 0.5 mg/kg/day ([0315]). The pharmaceutically acceptable carrier is an aqueous isotonic saline solution ([0370]). Morphine may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition

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([0373]) and parenterally administered ([0283] and [0370]) in an amount from 0.1 mg/kg/day to 4.0 mg/kg/day ([0303]). Hydromorphone may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 0.01 mg/kg/day to 2.0 mg/kg/day ([0301]). The pharmaceutically acceptable carrier is a sterile aqueous isotonic saline solution ([0370]). The pharmaceutically acceptable carrier is a sterile aqueous isotonic saline solution ([0370]). In regard to claims 26-27 and 35 in particular, the Coe '943 publication is utterly devoid of any teachings of the utilization of preservatives and merely mentions that said sterile aqueous isotonic saline solution may be suitably buffered, if necessary, so as to render said injectable pharmaceutical composition possessing an osmolality suitable for parenteral administration.

While the Coe '943 publication does not explicitly teach a system comprising a pump, which is coupled to a reservoir and a catheter, for intrathecal or epidural administration of an injectable pharmaceutical composition into cerebrospinal fluid, the Coe '943 publication does in fact teach parenteral administration of said injectable pharmaceutical composition ([0283] and [0370]). However, the Hochman '601 patent teaches intrathecal or epidural administration (column 12, lines 60-67; and column 14, lines 9-12) via a system comprising a pump (column 7, lines 40-44; column 13, lines 23-33, 38-39 and 49-53; column 14, lines 51-52) for delivering to cerebrospinal fluid via intrathecal or epidural administration (column 12, lines 60-67; column 13, lines 31-33; and column 14, lines 9-12), an injectable pharmaceutical composition comprising gabapentin, valproate and midazolam (column 14, lines 42-67; and column 15, lines 1-47) in a therapeutically effective amount sufficient to treat pain (column 6, lines 22-25; column 13, lines 58-60; column 14, lines 45-46 and 50; and column 15, lines 39-43). Therefore, it would have been prima facie obvious to one of ordinary

skill in the art at the time the instant application was filed to administer said injectable pharmaceutical composition intrathecally or epidurally via a system comprising a pump, which is coupled to a reservoir and a catheter, as parenteral administration by definition includes any route of administration (i.e., intrathecal or epidural) other than enteral (i.e., oral) administration. In addition, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to not only couple a therapeutic agent containing reservoir to said pump, but also couple a catheter to said pump so as to provide a means for delivering said injectable pharmaceutical composition to cerebrospinal fluid by intrathecal or epidural administration via said system. Furthermore, it would have also been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to incorporate the injectable pharmaceutical composition, of the Coe '943 publication, into a system comprising a pump having a therapeutic agent containing reservoir and a catheter coupled to said pump, so as to provide a means for delivering said injectable pharmaceutical composition to cerebrospinal fluid by intrathecal or epidural administration via said system. Therefore, one of ordinary skill in the art would have been motivated to incorporate said injectable pharmaceutical composition comprising gabapentin, a GABA agonist (i.e., valproic acid and sodium valproate), midazolam, baclofen and/or an opioid agonist (i.e., morphine and hydromorphone) into said therapeutic agent containing reservoir, which is coupled to said pump, so as to provide for a system of said injectable pharmaceutical composition, as suggested by the Hochman '601 patent.

With respect to claims 28-34 and 41-44 of the instant application, although the Coe '943 publication does not explicitly teach the instantly claimed combination, the Coe '943 publication does teach that said sterile injectable pharmaceutical composition may comprise an anticonvulsant analgesic in combination with a non-opioid and/or opioid analgesic for the treatment of pain ([0006], [0138],

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[0270], [0368] and [0373]). More specifically, the Coe '943 publication teaches that gabapentin, valproic acid, baclofen, morphine and hydromorphone are particularly useful in the treatment of pain ([0006], [0138], [0270], [0368] and [0373]). Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to in fact utilize gabapentin in combination with valproic acid, baclofen, morphine and/or hydromorphone. One of ordinary skill in the art would have been motivated to combine gabapentin together with valproic acid, baclofen, morphine and/or hydromorphone within said sterile injectable pharmaceutical composition, so as to obtain a sterile injectable pharmaceutical composition that is particularly useful in the treatment pain, as suggested by the Coe '943 publication. In addition, although the Coe '943 publication teaches utilizing valproic acid as an anticonvulsant analgesic, the Coe '943 publication does not explicitly teach utilizing the sodium salt of valproic acid, namely sodium valproate (a.k.a., valproate). However, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to utilize valproate, as valproate is merely the sodium salt of valproic acid, as one of ordinary skill in the art would reasonably expect that the sodium salt of valproic acid would also exhibit anticonvulsant analgesic activity similar, if not identical, to that of valproic acid. Furthermore, while the Coe '943 publication does not explicitly teach utilizing valproate and midazolam in combination with gabapentin, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to modify the injectable pharmaceutical composition of the Coe '943 publication to utilize gabapentin in combination with valproate and midazolam, as the Hochman '601 patent explicitly teaches utilizing not only gabapentin, but also valproate and midazolam in the treatment of pain associated with migraine headaches (column 3, lines 19-24; column 6, lines 20-43; column 8, lines 31-42; column 14, lines 42-67; and column 15, lines 1-47).

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Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to utilize gabapentin in combination with valproic acid, sodium valproate, midazolam, baclofen, morphine and/or hydromorphone within said injectable pharmaceutical composition so as to impart desired analgesic properties to said injectable pharmaceutical composition. One of ordinary skill in the art would have been motivated to utilize gabapentin in combination with a GABA agonist (i.e., valproic acid and sodium valproate), midazolam, baclofen and/or an opioid agonist (i.e., morphine and hydromorphone) within said injectable pharmaceutical composition so as to obtain an injectable pharmaceutical composition, which is particularly useful in the treatment pain, as suggested by the Hochman '601 patent.

With respect to claims 28-34 and 41-44 of the instant application, although neither the Coe '943 publication nor the Hochman '601 patent explicitly teach the instantly claimed concentrations of gabapentin, valproic acid, sodium valproate, midazolam, baclofen, morphine and/or hydromorphone present within said injectable pharmaceutical composition, the Coe '943 publication explicitly teaches that: said gabapentin may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 10.0 mg/kg/day to 35.0 mg/kg/day ([0315]); said valproic acid may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 1.0 mg/kg/day to 60.0 mg/kg/day ([0319]); said baclofen may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 0.1 mg/kg/day to 0.5 mg/kg/day ([0350]); said morphine may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered

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([0283] and [0370]) in an amount from 0.1 mg/kg/day to 4.0 mg/kg/day ([0303]); and said hydromorphone may be present in an amount from 0.1% by weight to 95% by weight of said pharmaceutical composition ([0373]) and parenterally administered ([0283] and [0370]) in an amount from 0.01 mg/kg/day to 2.0 mg/kg/day ([0301]). Furthermore, the Hochman '601 patent teaches that suitable therapeutic dosages of gabapentin, midazolam and valproate are readily obtainable by standard techniques well known to those of ordinary skill in the art (column 14, lines 18-67; and column 15, lines 1-47). It is well within the purview of the skilled artisan to determine the desired optimal workable concentrations of gabapentin, valproic acid, sodium valproate, midazolam, baclofen, morphine and hydromorphone by systematically adjusting the injectable dosage amounts of gabapentin, valproic acid, sodium valproate, midazolam, baclofen, morphine and hydromorphone in a given per unit volume of diluent during the course of routine experimentation. "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 105 USPQ 233, 235 (CCPA 1955). "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages." See *Peterson*, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003).

With respect to claims 1, 18-23, 35 and 36 of the instant application, although the Coe '943 publication explicitly teaches that said sterile injectable pharmaceutical composition comprises a sterile aqueous isotonic saline solution for parenteral administration ([0283], [0368], [0370] and [0372]), the Coe '943 publication does not explicitly teach a specific numerical value of osmolality that is isotonic with cerebrospinal fluid, wherein said sterile injectable pharmaceutical composition further comprises less than 0.9% weight per volume of sodium chloride. However, parenteral



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administration by definition includes any route of administration (i.e., intrathecal or epidural) other than enteral (i.e., oral) administration. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to utilize an appropriate weight per volume of sodium chloride so as to render an sterile injectable pharmaceutical composition comprising a sterile aqueous isotonic saline solution possessing a desired osmolality that is isotonic with cerebrospinal fluid thereby rendering said sterile injectable pharmaceutical composition suitable for parenteral administration via intrathecal or epidural injection.

With respect to claims 24-25 and 35 of the instant application, although the Coe '943 publication does not explicitly teach a specific pH that is physiologically similar to that of cerebrospinal fluid, the Coe '943 publication does teach that said sterile injectable pharmaceutical composition comprises a sterile aqueous isotonic saline solution, which is suitably buffered, if necessary, for parenteral administration and is readily obtainable by standard techniques well known to those of ordinary skill in the art ([0283], [0368], [0370] and [0372]). Parenteral administration by definition includes any route of administration (i.e., intrathecal or epidural) other than enteral (i.e., oral) administration. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to utilize a pH buffer, if necessary, so as to render an injectable pharmaceutical composition comprising a sterile aqueous isotonic saline solution possessing a desired pH suitable for parenteral administration so as to render an sterile injectable pharmaceutical composition comprising a sterile aqueous isotonic saline solution possessing a desired pH that is physiologically similar to that of cerebrospinal fluid thereby rendering said sterile injectable pharmaceutical composition suitable for parenteral administration via intrathecal or epidural injection.

With respect to claim 48 of the instant application, although the Coe 943 publication does not explicitly teach that said sterile injectable pharmaceutical composition is heat sterilized, the Coe '943 publication explicitly teaches that said sterile injectable pharmaceutical composition is prepared by methods readily known to those of ordinary skill in the art (1975) ([0004], [0283], [0370] and [0372]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant application was filed to utilize an autoclave or a filter as a means of sterilizing said sterile injectable pharmaceutical composition. One of ordinary skill in the art would have been motivated to heat said injectable pharmaceutical composition to a temperature sufficient to thereby sterilize and increase the shelf life of said injectable pharmaceutical composition. In addition, utilization of a filter, as opposed to an autoclave, does not render the injectable pharmaceutical composition of the Coe '943 publication patentably distinct from the heat sterilized injectable pharmaceutical composition of the instant application. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because each and every element of the claimed invention, as a whole, would have been reasonably suggested by the teachings of the cited prior art references.

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2. Claims 1, 18-25, 35 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pre-Grant Patent Application Publication Number 2001/0036943 (hereinafter the Coe '943 publication) in view of U.S. Patent 6,495,601 (hereinafter the Hochman '601 patent) and in further view of U.S. Patent 4,755,388 (hereinafter the Heath '388 patent).

The teachings of the Coe '943 publication in view of the Hochman '601 patent are incorporated herein by reference and are therefore applied in the instant rejection as discussed hereinabove.

With respect to claims 1, 18-23, 35 and 36 of the instant application, although the Coe '943 publication explicitly teaches that said sterile injectable pharmaceutical composition comprises a sterile aqueous isotonic saline solution for parenteral administration ([0283], [0368], [0370] and [0372]), the Coe '943 publication does not explicitly teach a specific numerical value of osmolality that is isotonic with cerebrospinal fluid, wherein said sterile injectable pharmaceutical composition further comprises less than 0.9% weight per volume of sodium chloride. However, the Heath '388 patent teaches an aqueous gabapentin drug composition comprising an osmotic modifier, such as an aqueous saline solution (column 3, lines 10-20; and column 5, lines 6-9), whereby said aqueous gabapentin drug composition can be formulated in a manner such that said aqueous gabapentin drug composition has an osmolality from about 250 mOsm/kg to about 350 mOsm/kg, thereby rendering said aqueous gabapentin drug composition isotonic with physiological cerebrospinal fluid. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to modify the injectable pharmaceutical composition of the Coe '943 publication by incorporating an appropriate weight per volume of sodium chloride (i.e., less than or equal to 0.9% weight per volume of sodium chloride) thereby rendering said aqueous gabapentin drug composition having a specific osmolality from about 250 mOsm/kg to about 350 mOsm/kg, which is isotonic with

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cerebrospinal fluid, as suggested by the Heath '388 patent, so as to provide for parenteral administration of said injectable pharmaceutical composition via intrathecal or epidural administration.

With respect to claims 24-25 and 35 of the instant application, although the Coe '943 publication explicitly teaches that said sterile injectable pharmaceutical composition comprises a sterile aqueous isotonic saline solution, which is suitably buffered, if necessary, for parenteral administration ([0283], [0368], [0370] and [0372]), the Coe '943 publication does not explicitly teach a specific pH that is physiologically similar to that of cerebrospinal fluid. However, the Heath '388 patent teaches an aqueous gabapentin drug composition comprising a pH buffer (column 3, lines 10-20; and column 5, lines 6-9), whereby said aqueous gabapentin drug composition can be formulated in a manner such that said aqueous gabapentin drug composition has a pH from about 6 to about 9, thereby rendering said aqueous gabapentin drug composition having a pH that is physiologically similar to that of cerebrospinal fluid. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the instant application was filed to modify the injectable pharmaceutical composition of the Coe '943 with a pH buffer, if necessary, so as to impart not only a specific pH from about 6 to about 9, preferably from about 6 to about 8, and more preferably from about 6.5 to about 7.5, which is physiologically similar to that of cerebrospinal fluid, as suggested by the Heath '388 patent, so as to provide for parenteral administration of said injectable pharmaceutical composition via intrathecal or epidural administration.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because each and every element as recited in the aforementioned claims, as a whole, would have been reasonably suggested by the teachings of the cited prior art references.

***Conclusion***

Claims 1-48 are rejected.

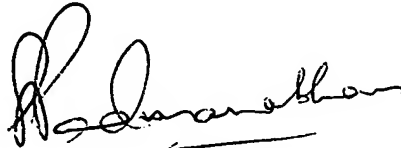
***Contact Information***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to David P. Stitzel, Esq. whose telephone number is 571-272-8508. The Examiner can normally be reached on Monday-Friday, from 7:30AM-6:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Sreenivasan Padmanabhan can be reached at 571-272-0629. The central fax number for the USPTO is 571-273-8300.

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*David P. Stitzel, Esq.*



SREENI PADMANABHAN  
SUPERVISORY PATENT EXAMINER